Saskatchewan
Agriculture
and Food

Cost of Producing Grain Crops in Saskatchewan 1991

Foreword

A manager of a business must keep in mind the fact that we live in a changing world. To successfully manage a business, a manager must be able to recognize and plan for changing conditions. A thorough knowledge of both production and financial requirements for each crop produced in a farm business is needed to successfully deal with the changes that have and will continue to take place in the agricultural industry.

The Top Management program uses a computer forward planning model that generates a cost of production report as well as projected financial statements for the next five years. This computer model allows a farm manager to enter information on his farm business, develop different scenarios for the future and test the strength of the farm business.

This bulletin provides an outline of the Top Management program, a summary of the information gathered and general information on the pricing formula used in the Gross Revenue Insurance program. Average estimates of the cost to produce and return received per acre are provided on a crop and soil zone basis. With his information a farm manager will be able to assess the performance of this farm business as it relates to other farm businesses producing the same crops. This information will also be of use to individuals who are considering producing a crop for the first time as it will provide a guide to the cost and return associated with each crop.

This publication was prepared by the Farm Management Section of the Economics Branch, Saskatchewan Agriculture and Food. The contribution of individuals who assisted in compiling the data and information for this publication is gratefully acknowledged. A special thank you is extended to Saskatchewan farmers who participated in the Top Management program, and to Tom Thorson and his staff for their work with the Top Management program.

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Introduction

This publication deals with the cost of producing a crop and the expected income for 1991. The information was obtained from an analysis of the data provided by 134 farmers who participated in the Top Management program. The farms are categorized by soil zone. Estimates of the average cost to produce each specific crop in 1991 as well as an estimate for income is calculated.

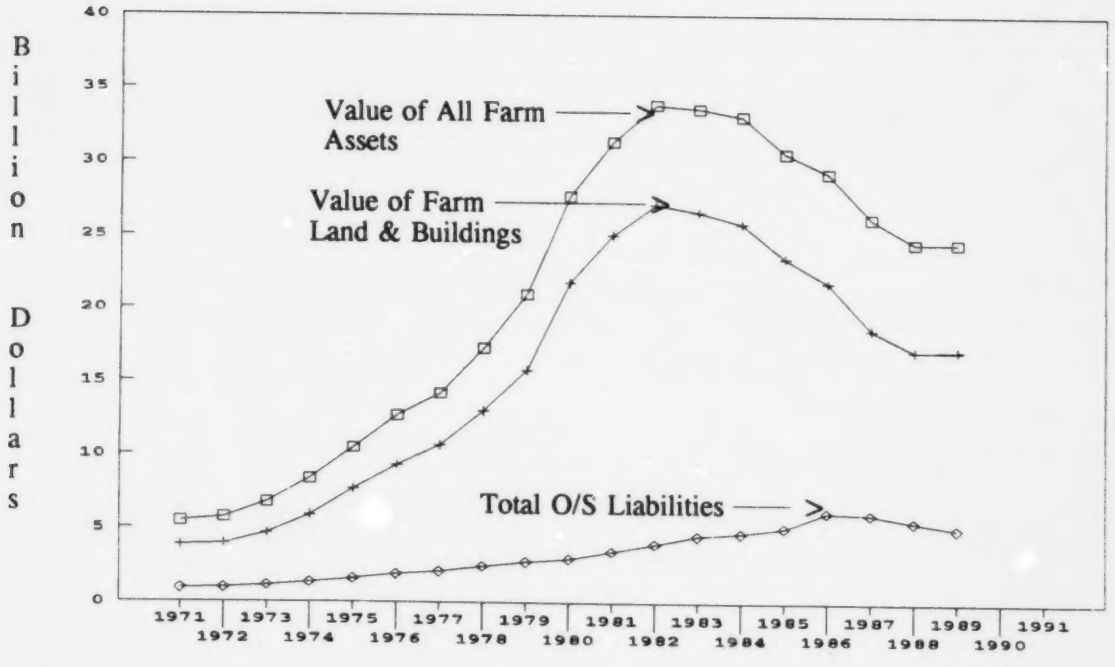
Care must be exercised in interpreting the cost of production statement in this publication. While the statements are based on actual farm data for 1991, it must be recognized that the sample size is quite small and is not statistically drawn. Thus, the results should not be interpreted as provincial averages but should be used as a guide to the cost and returns associated with each specific crop.

Real Estate Values

Saskatchewan farm real estate values have declined each year since 1982. The decline in value is approximately 35% to the end of 1988 from the peak of almost $27 billion in 1982. Since 1988 farm real estate values have remained nearly unchanged.

The declines in land values in the 1980s is in sharp contrast to the steady and rapid increases during the 1970s when grain prices were increasing and interest rates were favourable.

Farm Assets and Liabilities
Trends from 1970 to 1990

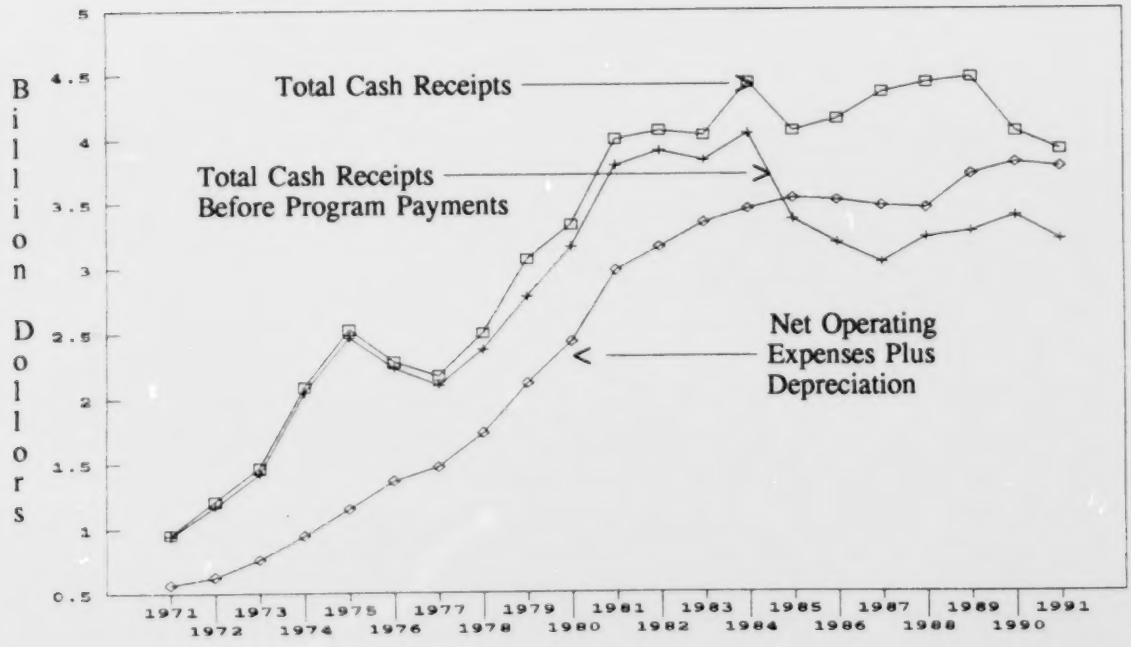


Source: Statistics Canada

Farm Income Trends

Saskatchewan realized net farm income fluctuates from year to year as a result of changes in crop sales and prices. Program payments have been important during the 1980s and will again play an important part in the profitability of grain farms in 1991. Program payments are made up of payments from Western Grain Stabilization, Canadian Special Grains program, Crop Insurance program and other smaller miscellaneous programs. For 1991 program payments will be made from Western Grain Stabilization program and likely from GRIP. Farmers participating in the Top Management program have estimated that they will receive miscellaneous or program payments of $24.75 per acre. This estimate does not include payments that would normally come from the Crop Insurance program due to poor crop yields or payments that may come from the NISA program. In all soil zones the Top Management participants would have shown a negative net farm income without payments from GRIP and WGSA.

Farm Income Trends
1971 to 1991



** 1991 figures are a forecast
Source: Statistics Canada

Methodology

The Top Management computer model allows farm managers to enter their cropping plans for the next five years. The computer model calculates detailed cost and returns for each crop for 1991 and a summary of income and expenses for the following four years. The cost and returns shown in this publication are an average of the detailed estimates calculated for each farmer for 1991. Figures were not calculated for a crop if less than five farmers planned to produce the crop or if less than 500 acres were sown to the crop in 1991. The average cost per acre for each crop is calculated as a weighted average. Using this approach will result in the figures being closer to the cost estimates provided by the larger farmers. In addition, the participants in the Top Management program have farm operations somewhat larger than the average farm size for the province.

With a larger number of participants, average per acre figures could be calculated for specific farm sizes. The data collection program that was carried on by the Economics Branch from 1980 to 1985 had a sample size large enough to allow for an comparison of per acre costs and returns of different size farm operations. This comparison of costs and returns showed that farm size had very little effect on the per acre costs and income of a farm. The personal living expenses on a per acre basis do however vary substantially with farm size. Larger farms had a substantially lower cost per acre for living expenses.

Hired labour cost, in these statements, is calculated as an average for each soil zone . Depreciation for buildings and equipment, in these statements, is equal to one-half of the amount calculated by the Top Management program for capital recovery (the Top Management program includes depreciation and interest on investment in the figure for capital recovery). All other figures for costs and income are calculated as a weighted average from the Top Management data.

Net Farm Cash Income is the difference between the total income calculated on an accrual basis and total cash expenses. This amount represents the actual dollars that a farmer has from each crop to cover his living costs, loan payments, and to accumulate savings.

Net Farm Income is the difference between the total income calculated on the accrual basis for each crop and the total cash expenses plus depreciation. This amount represents the return to the farmer's labour, management and investment.

Comparison to Table 12 of the Top Management Report

A number of the figures in these statements can be compared to the figures in Table 12 of the Top Management reports.

i. Total crop inputs would be the same figure as "Materials" in Table 12 (Section II 1-a).

ii. Equipment expenses -- fuel, oil and lubricants is similar to "Power & Electricity" in Table 12. Repairs and maintenance is similar to "Repairs" in Table 12. Miscellaneous is similar to the "Hour Machinery Lease". Indirect equipment expenses is similar to "Power and Repairs"(Section III b - 3) in Table 12.

iii. Price per bushel is similar to the "Price" (Section I d) in Table 12.

iv. Yield per acre is the same as "Average Total Combined" (Section I c) in Table 12.

General Information

The following information is calculated as a simple average from all of 134 farmers who participated in the Top Management program this year.

1991 seeding intentions as a percentage of the total crop acres:

	Summer-fallow	Wheat	Barley	Canola	Flax	Other
1988 planned seeding intentions	32.37%	43.80%	8.97%	10.45%	3.38%	1.10%
1989 planned seeding intentions	29.37%	44.79%	11.61%	9.17%	2.76%	2.28%
1990 planned seeding intentions	28.50%	43.03%	10.02%	6.68%	3.53%	8.23%
1991 planned seeding intentions	29.90%	43.57%	8.18%	6.44%	2.68%	9.23%
Percentage of 1990	104.90%	101.24%	81.65%	96.39%	75.80%	112.15%

Average farm size	1889 acres
Average owned acres	1166 acres
Average crop share leased acres	372 acres
Average cash leased acres	356 acres
Total investment per owned acre	$647
Total debt per owned acre	$148
Average interest paid per owned acre	$8.88
Total debt servicing per owned acre	$34.03
Total debt to net worth ratio	.31
Total debt to total asset ratio	.24
Average percent equity	76%
Number of farms with more than 90% equity	33
Number of farms with 70% to 90% equity	44
Number of farms with 50% to 70% equity	42
Number of farms with less than 50% equity	15

	Farms with more than 90% equity	Farms with 70% to 90% equity	Farms with 50% to 70% equity	Farms with less than 50% equity
Average number of acres	1,909	2,157	1,653	1,715
Average number of owned acres	1,266	1,403	916	985
Percent owned land	66%	65%	55%	57%
Projected income per acre*	80.61	83.49	92.23	79.27
Projected cash expense/acre**	50.27	53.05	59.43	51.56
Return above cash expenses	30.35	30.43	32.80	27.71

Average off farm income $3,976 - 39% of the farms have off farm income
Average off farm income for those farms reporting off farm income was $10,247.

* This figure includes crop and miscellaneous income(expected payout from GRIP).
** This figure does not include interest or principle payments, cost of living or depreciation.

Table 1: Cost Of Production Averages - All Farms

	1988	1989	1990	1991
Number in this group	130	130	136	134
Average farm size*	1,712	1,860	1,793	1889
Percent cropped	72%	76%	77%	72%
Investment in equipment*	$ 88	$ 90	$ 86	$85
Investment in buildings*	$ 8	$ 27	$ 26	$26
Market value of farmland	$348	$297	$312	$290
Projected Income		**Dollars Per Acre**		
Grain income	65.32	94.16	85.93	62.65
Miscellaneous income	8.29	1.35	3.42	24.75
Total Income	*73.61*	*95.51*	*89.35*	*87.40*
Projected Expenses				
Crop inputs				
Seed	3.59	4.79	4.70	4.15
Fertilizer				
Nitrogen	3.68	3.51	3.37	2.66
Phosphorus	3.13	3.21	2.84	2.41
Other fertilizer	.90	1.19	0.81	1.00
Chemical				
Herbicide	7.14	7.50	7.10	7.61
Insecticide	.18	0.04	0.12	0.09
Crop insurance	1.82	2.01	2.52	2.48
Hail insurance	.56	0.55	0.45	0.31
Revenue insurance	0.00	0.00	0.00	5.81
Miscellaneous crop inputs	.43	0.39	1.12	1.15
Total Crop Inputs	*21.43*	*23.19*	*23.03*	*27.67*
Equipment and Building Expenses				
Fuel, oil and lubricants	4.28	4.05	4.11	4.77
Repairs and maintenance	4.26	4.58	4.19	4.08
Miscellaneous	2.76	0.52	0.51	0.25
Indirect equipment expenses	.62	2.67	2.58	2.78
Total Equipment Expenses	*11.92*	*11.82*	*11.39*	*11.88*
Other Expenses				
Labour	5.20	7.68	6.62	4.64
Property taxes	2.69	2.00	2.78	2.89
Miscellaneous	3.75	3.99	4.46	5.58
Operating interest	1.82	1.93	1.89	2.13
Total Other Costs	*13.46*	*15.60*	*15.75*	*15.24*
Total Cash Costs	*46.81*	*50.61*	*50.17*	*54.79*
Depreciation buildings and equipment	13.66	13.77	13.10	12.14
Total Cash and Depreciation Cost	*60.47*	*64.38*	*63.27*	*66.93*
Net Farm Cash Income	**26.80**	**44.90**	**39.18**	**32.61**
Net Farm Income	**13.14**	**31.13**	**26.08**	**20.47**
Living Costs	**9.76**	**9.82**	**10.74**	**10.61**
Number of Gallons Fuel per Acre	**2.9**	**2.8**	**2.46**	**2.44**

* All owned and leased acres

Table 1.1: Cost of Production Averages by Soil Zone - 1991

	Brown Soil Zone	Dark Brown Soil Zone	Black Soil Zone
Number in this group	31	49	54
Average farm size*	2,265	1,971	1,597
Percent cropped	62%	65%	86%
Investment in equipment*	$ 68	$ 82	$103
Investment in buildings*	$ 19	$ 20	$ 36
Market value of farmland	$298	$298	$276
Projected Income		**Dollars Per Acre**	
Grain income	48.08	54.17	82.57
Miscellaneous Income	23.84	22.12	28.73
Total Income	*71.92*	*76.29*	*111.30*
Projected Expenses			
Crop inputs			
Seed	3.16	3.90	5.14
Fertilizer			
Nitrogen	0.39	1.47	5.60
Phosphorus	1.48	1.72	3.84
Other fertilizer	0.30	0.93	1.59
Chemical			
Herbicide	4.51	6.97	10.81
Crop insurance	2.52	2.00	2.99
Hail insurance	0.25	0.31	0.36
Revenue Insurance	4.43	5.35	7.32
Miscellaneous crop inputs	1.63	1.10	0.85
Total Crop Inputs	*18.67*	*23.75*	*38.50*
Equipment and Building Expenses			
Fuel, oil and lubricants	3.65	4.57	5.80
Repairs and maintenance	3.42	3.35	5.37
Miscellaneous	0.21	0.17	0.37
Indirect equipment expenses	2.56	2.20	3.58
Total Equipment Expenses	*9.84*	*10.29*	*15.12*
Other Expenses			
Labour	3.90	4.00	5.87
Property taxes	3.00	2.63	3.10
Miscellaneous	5.64	5.40	5.74
Operating interest	1.49	1.81	2.94
Total Other Costs	*14.03*	*13.84*	*17.65*
Total Cash Costs	*42.54*	*47.88*	*71.27*
Depreciation buildings and equipment	10.64	10.88	14.63
Total Cash and Depreciation Cost	*53.18*	*58.76*	*85.90*
Net Farm Cash Income	**29.38**	**28.41**	**40.03**
Net Farm Income	**18.74**	**17.53**	**25.40**
Living Costs	**8.12**	**11.40**	**11.58**
Number of Gallons Fuel per Acre	**1.85**	**2.36**	**2.94**

* All owned and leased land

Crop Averages For The Brown Soil Zone

Crop Income

Safety Net Income

Crop Inputs

Total Equipment Costs

Miscellaneous Cash Costs

Depreciation of Buildings and Equipment

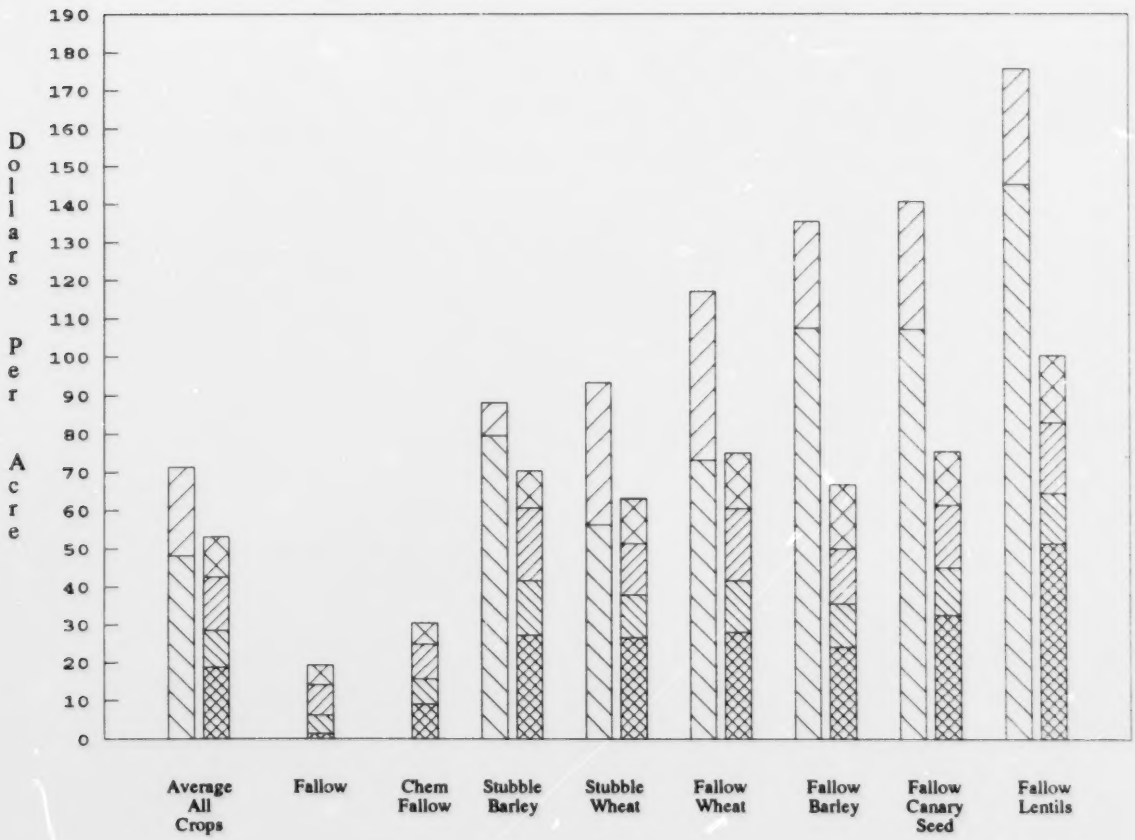


Table 2.1: Brown Soil Zone

	Summerfallow	Chem Fallow	Wheat On Fallow
Number in this group	30	11	59
Total acres in this crop	17563	3623	18623
Projected Income		**Dollars Per Acre**	
Miscellaneous income	0.00	0.00	43.96
Price per bushel	0.00	0.00	2.61
Yield per acre	0.00	0.00	28.00
Total Income	*0.00*	*0.00*	*117.04*
Projected Expenses			
Crop inputs			
Seed	0.00	0.00	4.72
Fertilizer			
Nitrogen	0.00	0.00	0.34
Phosphorus	0.00	0.00	1.90
Other fertilizer	0.00	0.00	0.08
Chemical			
Herbicide	1.33	9.07	4.64
Insecticide	0.00	0.00	0.00
Crop insurance	0.00	0.00	4.24
Hail insurance	0.00	0.00	0.41
Revenue insurance	0.00	0.00	8.16
Miscellaneous crop inputs	0.00	0.00	3.50
Total Crop Inputs	*1.33*	*9.07*	*27.99*
Equipment & Building Expenses			
Fuel, oil and lubricants	2.92	1.54	4.60
Repairs and maintenance	1.27	3.30	4.77
Miscellaneous	0.04	0.15	0.24
Indirect equipment expenses	0.57	1.58	3.99
Total Equipment Expenses	*4.80*	*6.57*	*13.60*
Other Expenses			
Labour	3.90	3.90	3.90
Property taxes	2.68	2.53	2.90
Miscellaneous	1.04	1.90	9.80
Operating interest	0.33	0.85	2.14
Total Other Costs	*7.95*	*9.18*	*18.74*
Total Cash Costs	*14.08*	*24.82*	*60.33*
Depreciation buildings & equipment	5.14	5.58	14.53
Total Cash & Depreciation Cost	*19.22*	*30.40*	*74.86*
Net Farm Cash Income	**-14.08**	**-24.82**	**56.71**
Net Farm Income	**-19.22**	**-30.40**	**42.18**
Direct time per acre (hours)	**0.23**	**0.20**	**0.53**
Number of gallons fuel per acre	**1.48**	**0.78**	**2.33**
Investment in equipment per acre	**39.54**	**36.84**	**81.71**

Table 2.2: Brown Soil Zone

	Barley On Fallow	Canary Seed On Fallow	Lentils On Fallow
Number in this group	14	9	5
Total acres in this crop	3782	1506	993
Projected Income		**Dollars Per Acre**	
Miscellaneous income	27.96	33.55	30.41
Price per bushel	2.39	4.46	9.68
Yield per acre	45.00	24.00	15.00
Total Income	*135.51*	*140.59*	*175.61*
Projected Expenses			
Crop inputs			
Seed	4.22	3.45	17.39
Fertilizer			
Nitrogen	0.30	0.00	0.00
Phosphorus	4.21	3.36	0.48
Other fertilizer	0.09	0.00	0.31
Chemical			
Herbicide	5.14	10.53	13.43
Insecticide	0.00	0.00	0.00
Crop insurance	3.01	5.33	9.09
Hail insurance	0.87	0.19	0.45
Revenue insurance	6.27	9.23	9.52
Miscellaneous crop inputs	0.00	0.32	0.66
Total Crop Inputs	*24.11*	*32.41*	*51.33*
Equipment & Building Expenses			
Fuel, oil and lubricants	4.13	3.42	3.97
Repairs and maintenance	4.31	3.40	3.64
Miscellaneous	0.03	1.91	0.56
Indirect equipment expenses	2.94	3.86	4.80
Total Equipment Expenses	*11.41*	*12.59*	*12.97*
Other Expenses			
Labour	3.90	3.90	3.90
Property taxes	3.17	5.21	3.70
Miscellaneous	5.20	4.68	7.61
Operating interest	2.07	2.54	3.33
Total Other Costs	*14.34*	*16.33*	*18.54*
Total Cash Costs	*49.86*	*61.33*	*82.84*
Depreciation buildings & equipment	16.78	14.10	17.52
Total Cash & Depreciation Cost	*66.64*	*75.43*	*100.36*
Net Farm Cash Income	**85.65**	**79.26**	**92.77**
Net Farm Income	**68.87**	**65.16**	**75.25**
Direct time per acre (hours)	**0.57**	**0.38**	**0.46**
Number of gallons fuel per acre	**2.14**	**1.79**	**2.18**
Investment in equipment per acre	**95.84**	**73.47**	**84.96**

Table 2.3: Brown Soil Zone

	Wheat On Stubble	Barley On Stubble
Number in this group	25	11
Total acres in this crop	5297	889
Projected Income	**Dollars Per Acre**	
Miscellaneous income	36.97	8.60
Price per bushel	2.68	2.27
Yield per acre	21.00	35.00
Total Income	*93.25*	*88.05*
Projected Expenses		
Crop inputs		
Seed	4.78	4.51
Fertilizer		
Nitrogen	2.21	2.14
Phosphorus	2.87	2.09
Other fertilizer	1.80	3.71
Chemical		
Herbicide	5.78	6.45
Insecticide	0.00	0.00
Crop insurance	3.93	1.16
Hail insurance	0.22	0.00
Revenue insurance	4.92	3.16
Miscellaneous crop inputs	0.18	4.01
Total Crop Inputs	*26.69*	*27.23*
Equipment & Building Expenses		
Fuel, oil and lubricants	3.73	5.25
Repairs and maintenance	4.09	5.74
Miscellaneous	0.24	0.56
Indirect equipment expenses	3.08	2.93
Total Equipment Expenses	*11.14*	*14.48*
Other Expenses		
Labour	3.90	3.90
Property taxes	3.23	3.03
Miscellaneous	4.55	9.71
Operating interest	1.76	2.21
Total Other Costs	*13.44*	*18.85*
Total Cash Costs	*51.27*	*60.56*
Depreciation buildings & equipment	11.76	9.72
Total Cash & Depreciation Cost	*63.03*	*70.28*
Net Farm Cash Income	**41.98**	**27.49**
Net Farm Income	**30.22**	**17.77**
Direct time per acre (hours)	**0.43**	**0.72**
Number of gallons fuel per acre	**1.82**	**2.45**
Investment in equipment per acre	**70.03**	**65.85**

Crop Averages For The Dark Brown Soil Zone

Crop Income

Safety Net Income

Crop Inputs

Total Equipment Costs

Miscellaneous Cash Costs

Depreciation of Buildings and Equipment

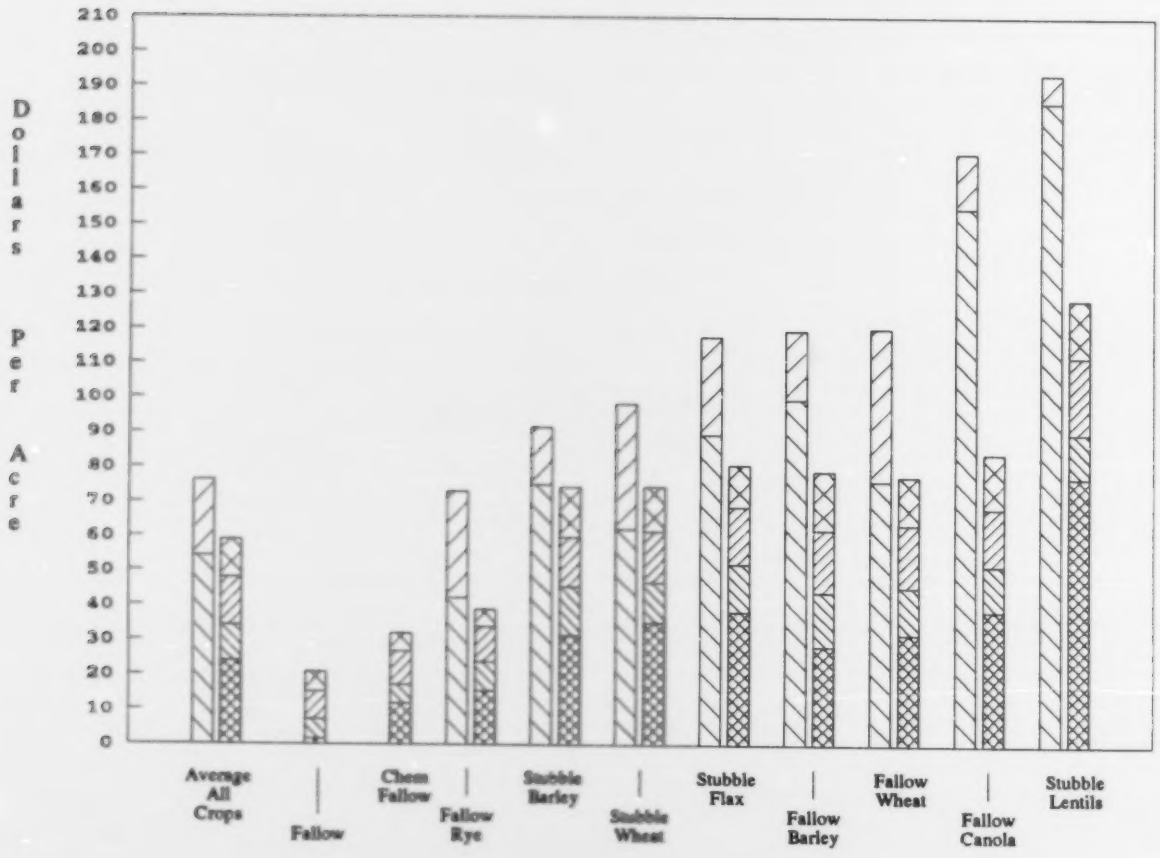


Table 3.1: Dark Brown Soil Zone

	Summerfallow	Chem Fallow	Wheat On Fallow
Number in this group	45	11	84
Total acres in this crop	25162	4704	25315
Projected Income		**Dollars Per Acre**	
Miscellaneous income	0.00	0.00	44.13
Price per bushel	0.00	0.00	2.62
Yield per acre	0.00	0.00	29.00
Total Income	*0.00*	*0.00*	*120.11*
Projected Expenses			
Crop inputs			
Seed	0.00	0.00	5.14
Fertilizer			
Nitrogen	0.00	0.00	0.10
Phosphorus	0.00	0.00	2.30
Other fertilizer	0.00	0.00	0.88
Chemical			
Herbicide	1.63	11.78	8.75
Insecticide	0.03	0.00	0.02
Crop insurance	0.00	0.00	2.78
Hail insurance	0.00	0.00	0.57
Revenue insurance	0.00	0.00	8.98
Miscellaneous crop inputs	0.00	0.00	2.35
Total Crop Inputs	*1.66*	*11.78*	*31.87*
Equipment & Building Expenses			
Fuel, oil and lubricants	3.36	2.32	5.49
Repairs and maintenance	1.63	1.51	4.40
Miscellaneous	0.00	0.00	0.19
Indirect equipment expenses	0.55	1.40	3.53
Total Equipment Expenses	*5.54*	*5.23*	*13.61*
Other Expenses			
Labour	4.00	4.00	4.00
Property taxes	2.30	2.59	2.59
Miscellaneous	1.12	2.08	9.27
Operating interest	0.40	0.94	2.30
Total Other Costs	*7.82*	*9.61*	*18.16*
Total Cash Costs	*15.02*	*26.62*	*63.64*
Depreciation buildings & equipment	5.79	5.11	13.63
Total Cash & Depreciation Cost	*20.81*	*31.73*	*77.27*
Net Farm Cash Income	**-15.02**	**-26.62**	**56.47**
Net Farm Income	**-20.81**	**-31.73**	**42.84**
Direct time per acre (hours)	**0.27**	**0.22**	**0.62**
Number of gallons fuel per acre	**1.77**	**1.33**	**2.79**
Investment in equipment per acre	**47.13**	**33.54**	**82.65**

Table 3.2: Dark Brown Soil Zone

	Barley On Fallow	Canola On Fallow	Rye On Fallow
Number in this group	11	17	6
Total acres in this crop	1850	2635	915
Projected Income		**Dollars Per Acre**	
Miscellaneous income	20.06	15.99	30.75
Price per bushel	1.95	5.95	1.56
Yield per acre	51.00	26.00	27.00
Total Income	*119.51*	*170.69*	*72.87*
Projected Expenses			
Crop inputs			
Seed	4.24	6.08	2.52
Fertilizer			
Nitrogen	0.40	0.83	0.07
Phosphorus	4.30	4.05	0.19
Other fertilizer	0.00	2.23	1.67
Chemical			
Herbicide	8.29	9.24	1.66
Insecticide	0.00	0.51	0.01
Crop insurance	3.25	5.96	1.28
Hail insurance	0.71	0.55	0.00
Revenue insurance	6.55	8.04	7.86
Miscellaneous crop inputs	0.68	1.15	0.02
Total Crop Inputs	*28.42*	*38.64*	*15.28*
Equipment & Building Expenses			
Fuel, oil and lubricants	7.80	5.09	4.07
Repairs and maintenance	4.59	4.93	2.96
Miscellaneous	0.23	0.03	0.00
Indirect equipment expenses	2.81	3.00	1.40
Total Equipment Expenses	*15.43*	*13.05*	*8.43*
Other Expenses			
Labour	4.00	4.00	4.00
Property taxes	3.30	3.28	1.81
Miscellaneous	8.56	6.33	3.03
Operating interest	2.31	2.95	1.31
Total Other Costs	*18.17*	*16.56*	*10.15*
Total Cash Costs	*62.02*	*68.25*	*33.86*
Depreciation buildings & equipment	16.86	15.78	4.98
Total Cash & Depreciation Cost	*78.88*	*84.03*	*38.84*
Net Farm Cash Income	**57.49**	**102.44**	**39.01**
Net Farm Income	**40.63**	**86.66**	**34.03**
Direct time per acre (hours)	**0.88**	**0.64**	**0.68**
Number of gallons fuel per acre	**3.93**	**2.48**	**1.93**
Investment in equipment per acre	**99.92**	**97.95**	**33.06**

Table 3.3: Dark Brown Soil Zone

	Wheat On Stubble	Barley On Stubble	Flax On Stubble
Number in this group	53	27	5
Total acres in this crop	14960	2817	710
Projected Income		**Dollars Per Acre**	
Miscellaneous income	35.85	16.40	28.29
Price per bushel	2.59	1.92	6.38
Yield per acre	24.00	39.00	14.00
Total Income	*98.01*	*91.28*	*117.61*
Projected Expenses			
Crop inputs			
Seed	4.61	4.14	6.47
Fertilizer			
Nitrogen	5.64	5.85	4.31
Phosphorus	2.82	3.38	2.99
Other fertilizer	2.42	2.77	1.16
Chemical			
Herbicide	8.00	5.00	11.65
Insecticide	0.45	0.04	0.00
Crop insurance	2.55	2.60	3.27
Hail insurance	0.27	0.58	0.00
Revenue insurance	7.41	5.96	6.35
Miscellaneous crop inputs	0.94	1.07	1.97
Total Crop Inputs	*35.11*	*31.39*	*38.17*
Equipment & Building Expenses			
Fuel, oil and lubricants	4.99	6.05	5.76
Repairs and maintenance	4.00	4.88	4.48
Miscellaneous	0.45	0.70	0.00
Indirect equipment expenses	2.17	2.43	3.58
Total Equipment Expenses	*11.61*	*14.06*	*13.82*
Other Expenses			
Labour	4.00	4.00	4.00
Property taxes	3.00	2.76	3.27
Miscellaneous	5.22	5.14	6.82
Operating interest	2.57	2.39	2.58
Total Other Costs	*14.79*	*14.29*	*16.67*
Total Cash Costs	*61.51*	*59.74*	*68.66*
Depreciation buildings & equipment	12.93	14.48	12.04
Total Cash & Depreciation Cost	*74.44*	*74.22*	*80.70*
Net Farm Cash Income	**36.50**	**31.54**	**48.95**
Net Farm Income	**23.57**	**17.06**	**36.91**
Direct time per acre (hours)	**0.56**	**0.77**	**0.62**
Number of gallons fuel per acre	**2.63**	**3.07**	**2.54**
Investment in equipment per acre	**83.56**	**81.31**	**74.79**

Table 3.4: Dark Brown Soil Zone

	Lentils On Stubble
Number in this group	14
Total acres in this crop	2291
Projected Income	**Dollars Per Acre**
Miscellaneous income	8.19
Price per bushel	9.76
Yield per acre	19.00
Total Income	*193.63*
Projected Expenses	
Crop inputs	
Seed	26.58
Fertilizer	
Nitrogen	0.46
Phosphorus	2.75
Other fertilizer	1.34
Chemical	
Herbicide	23.53
Insecticide	0.09
Crop insurance	5.82
Hail insurance	0.31
Revenue insurance	16.13
Miscellaneous crop inputs	0.16
Total Crop Inputs	*77.17*
Equipment & Building Expenses	
Fuel, oil and lubricants	4.28
Repairs and maintenance	4.17
Miscellaneous	0.24
Indirect equipment expenses	3.91
Total Equipment Expenses	*12.60*
Other Expenses	
Labour	4.00
Property taxes	3.26
Miscellaneous	9.91
Operating interest	4.99
Total Other Costs	*22.16*
Total Cash Costs	*111.93*
Depreciation buildings & equipment	16.54
Total Cash & Depreciation Cost	*128.47*
Net Farm Cash Income	**81.70**
Net Farm Income	**65.16**
Direct time per acre (hours)	**0.55**
Number of gallons fuel per acre	**2.31**
Investment in equipment per acre	**103.33**

Crop Averages For The Black Soil Zone

- Crop Income
- Safety Net Income
- Crop Inputs
- Total Equipment Costs
- Miscellaneous Cash Costs
- Depreciation of Buildings and Equipment

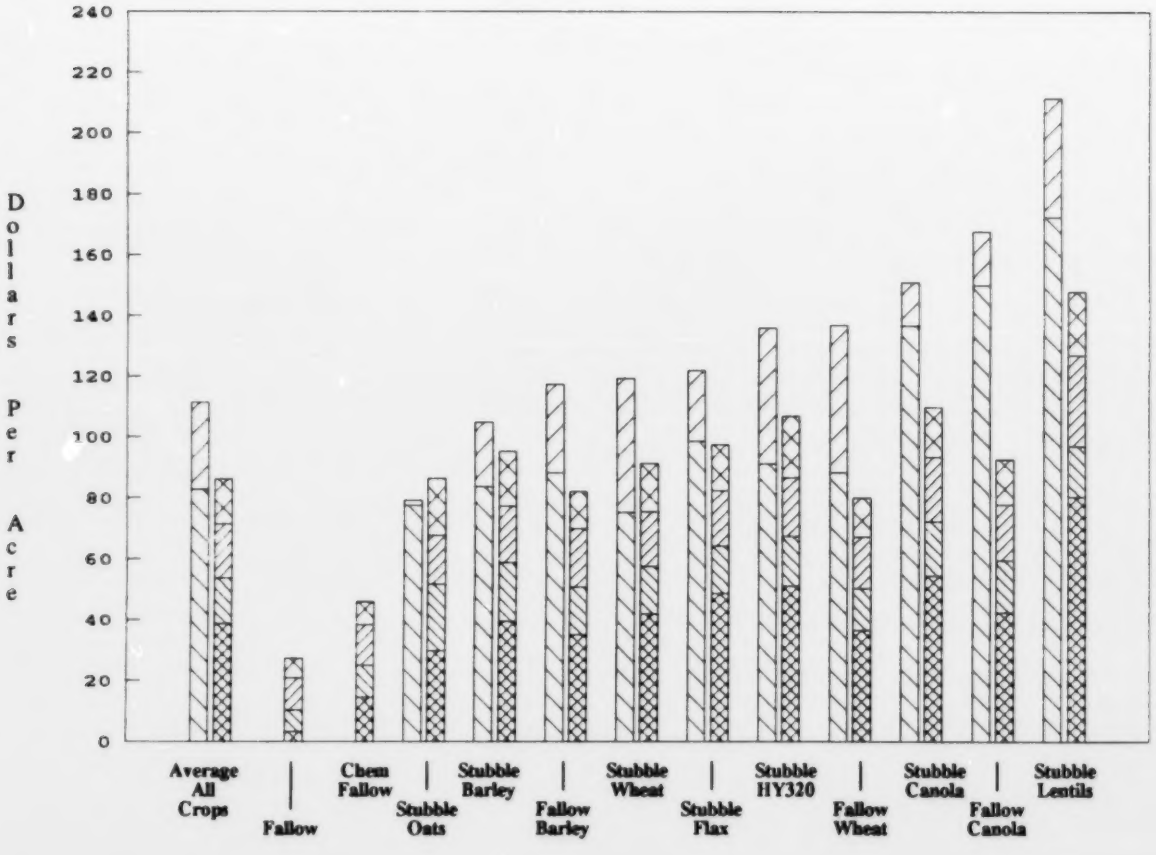


Table 4.1: Black Soil Zone

	Summerfallow	Chem Fallow	Wheat On Fallow
Number in this group	29	8	21
Total acres in this crop	9470	1432	5079
Projected Income		**Dollars Per Acre**	
Miscellaneous income	0.00	0.00	48.48
Price per bushel	0.00	0.00	2.52
Yield per acre	0.00	0.00	35.00
Total Income	*0.00*	*0.00*	*136.68*
Projected Expenses			
Crop inputs			
Seed	0.00	0.00	4.82
Fertilizer			
Nitrogen	0.00	0.00	0.02
Phosphorus	0.00	0.00	4.61
Other fertilizer	0.00	0.00	0.38
Chemical			
Herbicide	2.93	14.02	12.88
Insecticide	0.00	0.00	0.00
Crop insurance	0.00	0.00	3.54
Hail insurance	0.00	0.38	0.23
Revenue insurance	0.00	0.00	9.54
Miscellaneous crop inputs	0.39	0.08	0.53
Total Crop Inputs	*3.32*	*14.48*	*36.55*
Equipment & Building Expenses			
Fuel, oil and lubricants	3.85	3.24	5.22
Repairs and maintenance	2.66	4.36	5.07
Miscellaneous	0.00	0.00	0.00
Indirect equipment expenses	0.61	2.87	3.38
Total Equipment Expenses	*7.12*	*10.47*	*13.67*
Other Expenses			
Labour	5.87	5.87	5.87
Property taxes	2.71	2.38	3.23
Miscellaneous	1.33	3.75	5.19
Operating interest	0.58	1.32	2.75
Total Other Costs	*10.49*	*13.32*	*17.04*
Total Cash Costs	*20.93*	*38.27*	*67.26*
Depreciation buildings & equipment	6.44	7.41	12.86
Total Cash & Depreciation Cost	*27.37*	*45.68*	*80.12*
Net Farm Cash Income	**-20.93**	**-38.27**	**69.42**
Net Farm Income	**-27.37**	**-45.68**	**56.56**
Direct time per acre (hours)	**0.37**	**0.29**	**0.71**
Number of gallons fuel per acre	**1.90**	**1.55**	**2.61**
Investment in equipment per acre	**53.15**	**46.36**	**80.61**

Table 4.2: Black Soil Zone

	Barley On Fallow	Canola On Fallow	Wheat On Stubble
Number in this group	9	30	91
Total acres in this crop	924	5849	29022
Projected Income		**Dollars Per Acre**	
Miscellaneous income	29.14	17.68	44.09
Price per bushel	1.52	5.56	2.59
Yield per acre	58.00	27.00	29.00
Total Income	*117.30*	*167.80*	*119.20*
Projected Expenses			
Crop inputs			
Seed	4.96	6.20	5.45
Fertilizer			
Nitrogen	0.51	1.60	7.43
Phosphorus	6.82	5.09	4.41
Other fertilizer	0.73	1.03	2.12
Chemical			
Herbicide	10.19	11.61	9.78
Insecticide	0.00	0.65	0.05
Crop insurance	5.81	5.02	3.03
Hail insurance	0.30	0.99	0.29
Revenue insurance	4.67	9.70	8.69
Miscellaneous crop inputs	1.01	0.60	0.53
Total Crop Inputs	*35.00*	*42.49*	*41.78*
Equipment & Building Expenses			
Fuel, oil and lubricants	6.19	5.16	5.97
Repairs and maintenance	6.94	6.48	5.34
Miscellaneous	0.00	0.15	0.62
Indirect equipment expenses	2.37	5.26	3.73
Total Equipment Expenses	*15.50*	*17.05*	*15.66*
Other Expenses			
Labour	5.87	5.87	5.87
Property taxes	4.02	3.09	2.86
Miscellaneous	6.46	6.20	5.83
Operating interest	2.81	3.14	3.19
Total Other Costs	*19.16*	*18.30*	*17.75*
Total Cash Costs	*69.66*	*77.84*	*75.19*
Depreciation buildings & equipment	12.16	14.80	15.80
Total Cash & Depreciation Cost	*81.82*	*92.64*	*90.99*
Net Farm Cash Income	**47.64**	**89.96**	**44.01**
Net Farm Income	**35.48**	**75.16**	**28.21**
Direct time per acre (hours)	**0.92**	**0.63**	**0.66**
Number of gallons fuel per acre	**3.09**	**2.43**	**3.05**
Investment in equipment per acre	**73.74**	**95.12**	**94.27**

Table 4.3: Black Soil Zone

	Barley On Stubble	Canola On Stubble	Flax On Stubble
Number in this group	50	33	24
Total acres in this crop	7956	5477	5043
Projected Income		**Dollars Per Acre**	
Miscellaneous income	21.17	14.34	23.57
Price per bushel	1.64	5.69	5.18
Yield per acre	51.00	24.00	19.00
Total Income	*104.81*	*150.90*	*121.99*
Projected Expenses			
Crop inputs			
Seed	4.59	5.89	5.36
Fertilizer			
Nitrogen	8.77	12.39	8.01
Phosphorus	4.67	4.56	4.61
Other fertilizer	1.66	2.95	0.81
Chemical			
Herbicide	9.19	14.94	16.21
Insecticide	0.03	0.64	0.00
Crop insurance	2.49	4.14	3.61
Hail insurance	0.44	0.44	0.67
Revenue insurance	7.16	7.70	9.07
Miscellaneous crop inputs	0.40	0.87	0.13
Total Crop Inputs	*39.40*	*54.52*	*48.48*
Equipment & Building Expenses			
Fuel, oil and lubricants	7.85	6.78	5.30
Repairs and maintenance	7.56	5.89	4.80
Miscellaneous	0.44	0.28	0.26
Indirect equipment expenses	3.55	4.93	5.30
Total Equipment Expenses	*19.40*	*17.88*	*15.66*
Other Expenses			
Labour	5.87	5.87	5.87
Property taxes	3.60	3.50	2.99
Miscellaneous	5.85	7.61	5.87
Operating interest	3.26	4.00	3.44
Total Other Costs	*18.58*	*20.98*	*18.17*
Total Cash Costs	*77.38*	*93.38*	*82.31*
Depreciation buildings & equipment	17.93	16.55	15.04
Total Cash & Depreciation Cost	*95.31*	*109.93*	*97.35*
Net Farm Cash Income	**27.43**	**57.52**	**39.68**
Net Farm Income	**9.50**	**40.97**	**24.64**
Direct time per acre (hours)	**0.93**	**0.71**	**0.55**
Number of gallons fuel per acre	**4.07**	**3.62**	**2.52**
Investment in equipment per acre	**118.14**	**97.83**	**91.44**

Table 4.4: Black Soil Zone

	Oats On Stubble	HY320 On Stubble	Lentils On Stubble
Number in this group	9	7	11
Total acres in this crop	860	1155	2451
Projected Income		**Dollars Per Acre**	
Miscellaneous income	1.68	44.76	39.08
Price per bushel	1.27	2.12	9.58
Yield per acre	61.00	43.00	18.00
Total Income	*79.15*	*135.92*	*211.52*
Projected Expenses			
Crop inputs			
Seed	5.33	6.61	19.75
Fertilizer			
Nitrogen	8.74	9.73	0.79
Phosphorus	4.04	7.92	0.96
Other fertilizer	1.25	0.00	5.08
Chemical			
Herbicide	2.25	10.01	32.20
Insecticide	0.00	0.00	0.00
Crop insurance	2.27	3.78	5.90
Hail insurance	0.56	0.34	0.12
Revenue insurance	4.35	12.74	8.78
Miscellaneous crop inputs	0.94	0.00	6.76
Total Crop Inputs	*29.73*	*51.13*	*80.34*
Equipment & Building Expenses			
Fuel, oil and lubricants	8.55	6.54	6.72
Repairs and maintenance	6.90	5.25	5.27
Miscellaneous	3.31	0.11	0.07
Indirect equipment expenses	3.22	4.41	4.53
Total Equipment Expenses	*21.98*	*16.31*	*16.59*
Other Expenses			
Labour	5.87	5.87	5.87
Property taxes	3.31	4.10	3.96
Miscellaneous	4.08	5.81	14.82
Operating interest	2.68	3.40	5.34
Total Other Costs	*15.94*	*19.18*	*29.99*
Total Cash Costs	*67.65*	*86.62*	*126.92*
Depreciation buildings & equipment	18.55	20.12	21.08
Total Cash & Depreciation Cost	*86.20*	*106.74*	*148.00*
Net Farm Cash Income	**11.50**	**49.30**	**84.60**
Net Farm Income	**-7.05**	**29.18**	**63.52**
Direct time per acre (hours)	**1.13**	**0.72**	**0.77**
Number of gallons fuel per acre	**4.47**	**3.58**	**3.64**
Investment in equipment per acre	**112.98**	**129.79**	**118.27**

Top Management Program

The Top Management program uses a computer forward planning model that generates a cost of production report as well as projected financial statements for the next five years. The computer program has been developed by Dr. Schoney at the University of Saskatchewan for Saskatchewan farmers. This computer model allows a farm manager to enter information on his farm business, develop different scenarios for the future and test the strength of the farm business. The computer program will provide specific information on:

(1) What is the best combination of crops? For each crop produced on your farm, this computer program will provide a detailed breakdown of the costs and returns. This information will allow the farm manager to determine what combination of crops is best for his farm and where cost can be reduced for each crop.

(2) Is machinery investment adequate, too high or too low? This computer program will provide cost on a per acre or per hour basis for each machine on your farm. It will provide an estimate of the number of hours a machine is used per year. This information will be valuable in deciding which equipment needs to be upgraded or downgraded.

(3) Given the present economic condition and expectations for the future, will the farm business continue to grow? Lower grain prices have substantially reduced farm incomes. Planning ahead for the next few years will make it easier to deal with the uncertainty that exists in the world markets for the crops that are produced in Saskatchewan.

Through a series of three meetings, Top Management staff will provide a detailed outline of how the program operates, explain and assist in gathering the information on each individual farm and assist in analyzing the results and looking at alternatives. Written financial reports as well as floppy diskettes with all the farm information on it are provided to each farmer. This information can be updated annually. Individuals who are interested in participating in the Top Management Program should contact their Regional Farm Management Agrologist or Dr. Schoney at the University of Saskatchewan, Saskatoon, 966-4018 or Don Barber of the Economics Branch, Saskatchewan Agriculture and Food, Room 329 - 3085 Albert Street, Regina Sk. S4S 0B1, phone 787-5962.

Gross Revenue Insurance Program (GRIP).

In 1991 a new program that combined production insurance and price insurance was established to stabilize and support farm incomes. This program combined and enhanced the production insurance coverage of the Canada-Saskatchewan Crop Insurance program with revenue insurance. Producers are now able to protect their income against losses due to low yields as well as losses due to low prices.

GRIP will provide producers with an insurable income level based on a 15 year moving average of market prices, adjusted to reflect the change in the cost of farm inputs, and the producers yields. The level of income provided by this program will allow producers to select and produce a wider variety of crops and adopt a more varied crop rotation. Producers will be able select crops that will provide the best return in the market place with assurance that the Gross Revenue Insurance program will provide sufficient income to maintain the viability of the farm business when yield and/or prices are low.

GRIP uses a 15 year moving average of market prices, adjusted to reflect the change in the cost of farm inputs to establish a long term average price for each commodity. The GRIP support price is 70% of this long term average. The information shown in figure #1 is used to calculate the support price for spring wheat in 1991. Producers can calculate the expected support price for following years by working through an example using their own estimate of the market value of each crop and farm input price index.

Figure #1

Year	(1) Farm Input Price Index	(2) Actual Price	(3) Indexed Price	(4) 15 Year Average Price	(5) Imap Price	(6) Support Price
1985	1.133	3.70	3.27	5.99	6.56	4.59
1986	**1.104**	**2.89**	**2.62**	**5.81**	**6.41**	**4.49**
1987	1.084	3.13	2.89	5.73	6.21	4.34
1988	**1.098**	**4.88**	**4.44**	**5.63**	**6.18**	**4.33**
1989	1.127	4.11	3.65	5.45	6.14	4.30
1990	**1.198**	**2.94***	**2.45**	**4.94**	**5.92**	**4.14**
1991	1.288*	2.45*	1.95	4.60	5.93	4.15
1992				**4.34**		
1993				4.17		

Column (3) is equal to Column (2) divided by Column (1)

Column (4) is equal to the 15 year average of column (3) offset by 2 years. As an example column (4) for 1985 is the 15 year average of column (3) from 1969 to 1983. This approach is used as the final actual price for 1983 will only be known in 1985.

Column (5) is equal to column (4) Multiplied by column (1). This step is required to complete the adjustment for changes in the price of farm inputs.

Column (6) is equal to column (5) multiplied by .7.

** Estimated by the National Grain Bureau. These figures project an increase of 7.5% in the price of farm inputs from 1990 to 1991 and a final market price for wheat of $2.94 per bushel in 1990 and $2.45 per bushel in 1991.*

To calculate your own estimate of a Support Price for 1992, 1993, 1994 and 1995 you need to estimate the change in the price of farm inputs for each year from 1991 to 1995 and calculate the Farm Input Price Index (FIPI) as well as estimate the final market value of the crop for 1991, 1992, and 1993.

The farm input price index uses 1981 as the base year. Thus the index for 1981 is equal to 100 or 1.00. The farm input price index for 1990 is 1.198 and means that the price of farm inputs (seed, fertilizer, etc.) in 1990 is 1.198 times the price of inputs for 1981. To calculate the index for the coming years an assumption as to the amount of price increase (Example 3%) needs to be made and multiplied by the previous year's index (Example - 1990 index =1.198 - assume input prices increase by 3% - 1991 index=(1.198 x .03)+1.198): 1991 index = 1.234).

Spring Wheat:

Year	(1) Farm Input Price Index	(2) Final Market Price	(3) Indexed Price	(4) 15 Year Average*	(5) IMAP Price	(6) Support Price
1990	1.198	2.94	2.45	4.94	5.92	4.14
1991	____	____	____	4.60	____	____
1992	____	____	____	4.34	____	____
1993	____	____	____	____	____	____
1994	____	____	____	____	____	____
1995	____	____	____	____	____	____

Column (3) = Column (1) divided by Column (2)

Column (4): To calculate the 15 year average price use the following information:

1993 - (60.55 + indexed price for 1991) divided by 15
1994 - (56.10 + indexed price for 1991 & 1992) divided by 15
1995 - (50.52 + the indexed price for 1991, 1992 & 1993) divided by 15

Column (5) = Column (4) x Column (1)

Column (6) = Column (5) x .7

NOTE: If you use a Farm Input Price Index for 1991 that is not 1.288 as used by the GRIP program you will obtain a support price for 1991 that is not the same as the support price calculated by GRIP. The support prices for 1991 were set in January 1991 and will not be changed.

Durum Wheat:

Year	(1) Farm Input Price Index	(2) Final Market Price	(3) Indexed Price	(4) 15 Year Average*	(5) IMAP Price	(6) Support Price
1990	1.198	2.72	2.27	5.64	6.75	4.73
1991	____	____	____	5.01	____	____
1992	____	____	____	4.63	____	____
1993	____	____	____	____	____	____
1994	____	____	____	____	____	____
1995	____	____	____	____	____	____

Barley:

Year	(1) Farm Input Price Index	(2) Final Market Price	(3) Indexed Price	(4) 15 Year Average*	(5) IMAP Price	(6) Support Price
1990	1.198	1.60	1.34	2.58	3.09	2.16
1991	____	____	____	2.41	____	____
1992	____	____	____	2.23	____	____
1993	____	____	____	____	____	____
1994	____	____	____	____	____	____
1995	____	____	____	____	____	____

Column (3) = Column (1) divided by Column (2)

Column (4): To calculate the 15 year average price use the following information:

1993 - (30.50 + indexed price for 1991) divided by 15
1994 - (27.98 + indexed price for 1991 & 1992) divided by 15
1995 - (25.59 + the indexed price for 1991, 1992 & 1993) divided by 15

Column (5) = Column (4) x Column (1)

Column (6) = Column (5) x .7

NOTE: If you use a Farm Input Price Index for 1991 that is not 1.288 as used by the GRIP program you will obtain a support price for 1991 that is not the same as the support price calculated by GRIP. The support prices for 1991 were set in January 1991 and will not be changed.

Canola:

Year	(1) Farm Input Price Index	(2) Final Market Price	(3) Indexed Price	(4) 15 Year Average*	(5) IMAP Price	(6) Support Price
1990	1.198	5.83	4.87	7.98	9.56	6.69
1991	____	____	____	7.27	____	____
1992	____	____	____	6.98	____	____
1993	____	____	____	____	____	____
1994	____	____	____	____	____	____
1995	____	____	____	____	____	____

Flax:

Year	(1) Farm Input Price Index	(2) Final Market Price	(3) Indexed Price	(4) 15 Year Average*	(5) IMAP Price	(6) Support Price
1990	1.198	5.72	4.77	8.90	10.66	7.46
1991	____	____	____	8.01	____	____
1992	____	____	____	7.54	____	____
1993	____	____	____	____	____	____
1994	____	____	____	____	____	____
1995	____	____	____	____	____	____

Column (3) = Column (1) divided by Column (2)

Column (4): To calculate the 15 year average price use the following information:

1993 - (102.06 + indexed price for 1991) divided by 15
1994 - (93.72 + indexed price for 1991 & 1992) divided by 15
1995 - (83.57 + the indexed price for 1991, 1992 & 1993) divided by 15

Column (5) = Column (4) x Column (1)

Column (6) = Column (5) x .7

NOTE: If you use a Farm Input Price Index for 1991 that is not 1.288 as used by the GRIP program you will obtain a support price for 1991 that is not the same as the support price calculated by GRIP. The support prices for 1991 were set in January 1991 and will not be changed.

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